What is claimed is:

1. A method of treating a disorder of a subject's heart involving loss of cardiomyocytes which comprises administering to the subject a composition comprising an amount of a human stromal derived factor-1 and an amount of a human granulocyte-colony stimulating factor, the composition being administered in an amount effective to cause proliferation of cardiomyocytes within the subject's heart so as to thereby treat the disorder.

2. The method of claim 1, wherein the human stromal derived factor-1 is human stromal derived factor-1α.

3. The method of claim 1, wherein the human stromal derived factor-1 is human stromal derived factor-1β.

4. The method of claim 1, wherein the human stromal derived factor-1 is human stromal derived factor-1γ.

5. The method of claim 1, wherein the disorder comprises myocardial infarction, congestive heart failure, chronic ischemia, or ischemic disease.

6. The method of claim 1, further comprising administering to the subject an amount of one or more of a human granulocyte macrophage-colony stimulating factor, a human interleukin-8, a human vascular endothelial growth factor, a human fibroblast growth factor, a human Gro family chemokine, human endothelial progenitor cells, or a pro-angiogenic

agent, the amount, or if appropriate amounts, thereof being effective to cause proliferation of cardiomyocytes within the subject's heart so as to thereby treat the disorder.

7. The method of claim 1, wherein the composition is administered intramyocardially.

8. The method of claim 1, wherein the composition is administered intracoronarily.

9. The method of claim 1, wherein the composition is administered via a stent, a scaffold, or a slow-release formulation.

10. A method of treating a subject suffering from a disorder of a tissue involving loss and/or apoptosis of cells of the tissue which comprises administering to the subject a composition comprising an amount of an agent which induces phosphorylation and/or activation of protein kinase B, the composition being administered in an amount effective to cause proliferation of the cells and/or inhibit apoptosis of the cells of the tissue within the subject so as to thereby treat the disorder.

11. The method of claim 10, wherein the agent is human human stromal derived factor-1α.

12. The method of claim 10, wherein the agent is human stromal derived factor-1β.

13. The method of claim 10, wherein the agent is human stromal derived factor-1γ.

14. The method of claim 10, wherein the tissue is heart tissue and the cells are cardiomyocytes.

15. The method of claim 14, wherein the disorder from which the subject is suffering comprises myocardial infarction, congestive heart failure, chronic ischemia, or ischemic disease.

16. The method of claim 10, wherein the tissue is heart tissue and the cells are progenitors of cardiomyocytes or stem cells that differentiate to cardiomyocytes.

17. The method of claim 10, wherein the tissue is heart muscle, striated muscle, liver, kidney, neuronal or gastrointestinal tissue.

18. The method of claim 10, wherein the agent is insulin, endothelin-1, urocrotin, cardiotropin-1, erythropoietin, leukemia inhibitory factor-1, tumor necrosis factor-alpha.

19. The method of claim 10, further comprising administering an amount of one or more of a human granulocyte-colony stimulating factor, a human stromal-derived factor-1, a human granulocyte macrophage-colony stimulating factor, a human interleukin-8, a human vascular endothelial growth factor, a human fibroblast growth factor, a human Gro family chemokine, human endothelial progenitor cells,

or a pro-angiogenic agent, the amount, or if appropriate amounts, effective to cause proliferation of the cells and/or inhibit apoptosis of the cells of the tissue of the subject so as to thereby treat the disorder.

20. A composition comprising a human stromal-derived factor-1 and a human granulocyte-colony stimulating factor.

21. The method of claim 10, wherein the composition is administered intramyocardially.

22. The method of claim 10, wherein the composition is administered intracoronarily.

23. The method of claim 10, wherein the composition is administered via a stent, a scaffold, a slow-release formulation, intramuscularly, intravenously, intra-arterially, or sub-cutaneously.

24. A method of treating a subject suffering from a disorder of a tissue involving loss and/or apoptosis of cells of the tissue which comprises administering to the subject a composition comprising an amount of an agent which induces phosphorylation and/or activation of an extracellular signal-regulated protein kinase, the composition being administered in an amount effective to inhibit apoptosis and/or cause proliferation of the cells of the tissue within the subject so as to thereby treat the disorder.

25. The method of claim 24, wherein the agent is human human stromal derived factor-1α.

26. The method of claim 24, wherein the agent is human stromal derived factor-1β.

27. The method of claim 24, wherein the agent is human stromal derived factor-1γ.

28. The method of claim 24, wherein the tissue is heart tissue and the cells are cardiomyocytes.

29. The method of claim 28, wherein the disorder from which the subject is suffering comprises myocardial infarction, congestive heart failure, chronic ischemia, or ischemic disease.

30. The method of claim 24, wherein the tissue is heart tissue and the cells are progenitors of cardiomyocytes or stem cells that differentiate to cardiomyocytes.

31. The method of claim 24, further comprising administering an amount of one or more of a human granulocyte-colony stimulating factor, a human stromal-derived factor-1, a human granulocyte macrophage-colony stimulating factor, a human interleukin-8, a human vascular endothelial growth factor, a human fibroblast growth factor, a human Gro family chemokine, human endothelial progenitor cells, an activator of protein kinase B, or a pro-angiogenic agent, the amount, or if appropriate amounts, thereof being effective to inhibit apoptosis and/or cause

proliferation of the cells of the tissue within the subject so as to thereby treat the disorder.

32. The method of claim 28, wherein the agent is administered intramyocardially.

33. The method of claim 28, wherein the agent is administered intracoronarily.

34. The method of claim 24, wherein the agent is administered via a stent, a scaffold, or a slow-release formulation, intramuscularly, intravenously, intra-arterially, or sub-cutaneously.

35. A method of treating a subject suffering from a disorder of a tissue involving loss and/or apoptosis of cells of the tissue which comprises administering to the subject a composition comprising an amount of an agent which induces activation of CXCR4, the composition being administered in an amount effective to cause proliferation of the cells and/or inhibit apoptosis of the cells of the tissue within the subject so as to thereby treat the disorder.

36. The method of claim 35, wherein the tissue is heart tissue and the cells are cardiomyocytes.

37. The method of claim 36, wherein the agent is administered intramyocardially or intracoronarily via a stent, a scaffold, or a slow-release formulation.

38. The method of claim 35, wherein the agent is

administered systemically.

39. Use of an amount of a human stromal derived factor-1 and an amount of a human granulocyte-colony stimulating factor for the manufacture of a composition for treating a disorder of a subject's heart involving loss of cardiomyocytes.

40. Use of an amount of an agent which induces phosphorylation and/or activation of protein kinase B for the manufacture of a composition for treating a disorder of a subject's tissue involving loss of the cells of the tissue.

41. Use of an amount of an agent which induces phosphorylation and/or activation of extracellular signal regulated protein kinase for the manufacture of a composition for treating a disorder of a subject's tissue involving loss of the cells of the tissue.

42. Use of an amount of an agent which induces activation of CXCR4 for the manufacture of a composition for treating a disorder of a subject's tissue involving loss of cells of the tissue.